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Editorial

Looking back: Progress in epilepsy reflected in the Editor's Choice papers published in Seizure in 2012

I can now look back on my first full year as Editor-in-Chief of Seizure. It has been a great privilege to communicate with authors and reviewers in so many countries around the world. The greatest surprise has been how incredibly diverse the study of seizure disorders is today. I had always thought of myself as someone with a broad interest in my field. Now I know that my reading was actually quite selective. My work as an editor has been a real eye-opener in this respect.

Since taking up my position, I have chosen one manuscript in each issue which stood out from the others and identified this as my Editor's Choice. We have increased the visibility of these articles by making them available in full text from the date of publication on the Seizure website (http://www.seizure-journal.com). This look back at my selection over the last year does not only tell us something about Seizure but also about what the field has been up to in 2012.

The Editor's Choice for the first issue in 2012 was the report by Baulac et al. on the European Declaration.[1] At present, the European Union produces a stream of negative publicity, often relating to "red tape" or the poor state of its members' finances. This means that the good and useful work of EU institutions – such as the protection of human and consumer rights, the freedom of movement, or support for medical research – are easily overlooked. The Written Declaration on Epilepsy is a good thing which has come "from Europe" – that is, it can be a good thing if people with epilepsy, their families, carers and doctors as well as people interested in epilepsy research and healthcare policies, education and the provision of public services make it so. It provides a lever which can be used to negotiate improvements in epilepsy provisions and services as well as increases in funding for epilepsy research.

In the second issue I chose the paper "Extended retention intervals can help to bridge the gap between subjective and objective memory impairment" by Witt et al.[2] This study explored the large gap which exists between patients' experience of their own memory performance and memory functions as they are measured in routine neuropsychological tests. Multivariate analyses identified memory performance after four weeks and self-rated mood as determinants of subjective memory impairment. Subjective memory appraisal therefore appears to reflect a different time scale from that captured in routine memory testing. The paper suggests that the introduction of longer retention intervals may enhance the ecological validity of clinical memory tests. The study also confirmed that it is important to consider the patient's mood when dealing with subjective memory complaints.

The Editor's Choice for the third issue was a paper evaluating the risk of major congenital malformations associated with standard preparations of valproate and slow release versions of this drug.[3] In their paper, Mawhinney et al. demonstrate that, unfortunately, the use of slow release valproate does not help to reduce the risk of congenital malformations. This means that the malformation risk is likely to be determined by the total daily dose of valproate and not peak plasma concentrations. Whilst this is bad news because it reduces the number of options available to clinicians to reduce the malformation risk, it is better to know than not to know.

My choice from the forth issue of Seizure was the paper "Stressful Life Event Appraisal and Coping In Patients with Psychogenic Seizures and Those with Epilepsy" by Testa et al.[4] From its inception the scope of Seizure has specifically included other attack disorders, especially psychogenic nonepileptic seizures (PNES). This paper found no differences in the frequency or severity of adverse life events in groups of patients with PNES and epilepsy. However, patients with PNES reported more severe distress due to negative life events, especially in the domains of work, social functioning, legal matters, and health. PNES patients tended to engage in less planning and active coping than healthy controls. PNES were associated with abnormal coping characterised by elevated levels of perceived distress and fewer action strategies than are normally employed to reduce the impact of a stressor.

In the fifth issue, I chose "Western driving regulations for unprovoked first seizures and epilepsy" by Winston and Jaiser.[5] Many patients newly diagnosed with epilepsy are more upset about the fact that they will not be able to drive a car than that they have a potentially serious neurological disorder. For many the ability to drive is has acquired the status of a basic human right. All the more important then that driving bans because of epilepsy are routed in rational considerations of personal and societal risks and benefits. Winston and Jaiser may help with this by demonstrating that regulations across the world continue to vary widely, and that the available data support rules which are less stringent than those currently in force in many parts of the Western world.

The Editor's Choice for the sixth issue was a paper by Mirzoev et al. which focused on the day- and nighttime patterns of different types of focal epilepsy.[6] Although the fact that some seizures are closely related to the sleep/wake cycle or follow clear diurnal patterns has been recognised for a very long time it is often ignored. Taking notice of such seizure patterns may not only help clinicians and patients to identify times of particularly high seizure

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susceptibility but also enhance our understanding of epilepsy and lead to new treatment approaches. This review of the current literature revealed a clear correlation between different cortical epileptogenic foci and peak times of seizure occurrence during the circadian cycle. A peak at 7 pm was found in occipital seizures and peaks between 5 and 7 am in frontal lobe seizures and between 4 and 5 pm in temporal lobe seizures. Two diurnal peaks, between 5 and 7 am, and at 11 pm were identified in patients with parietal onset seizures, and between 7 and 8 am and 4 and 5 pm in mesial temporal onset seizures.

In the seventh issue in 2012 I highlighted "Epilepsy surgery: How accurate are multidisciplinary teams in predicting outcome?" by Baxendale et al.[7] This study investigated whether neurologists or an evidence-based mathematical formula are better at accurately predicting the chances of seizure-freedom after epilepsy surgery. Team predictions of postoperative outcome were generally accurate for groups of patients judged to have a 30%, 40%, 50% or 60% chance of becoming seizure free. However, team estimates of odds tended to regress towards the mean, and logistic regression analyses were more accurate than the team estimates in identifying patients with a very good (>70%) or very poor (<20%) chance of complete seizure freedom.

The Editor's Choice from the eighth issue was the review entitled "Atonic phenomena in focal seizures: nomenclature, clinical findings and pathophysiological concepts".[8] Whilst not the most dramatic seizure type, atonic seizures causing sudden collapse without warning (and significant injury) are the most disabling seizure type in symptomatic epilepsy syndromes. Focal atonic seizures are much less well understood (and even more often overlooked) although the concept of "epileptic interference" causing focal ictal deficits of neurological function was described by Penfield and Jasper over fifty years ago. In their review Kovac and Diehl focus on this neglected epileptic seizure type and provide a comprehensive review of the nomenclature and clinical phenomenology of as well as the pathophysiological concepts underpinning atonic seizures.

The Editor's Choice from the ninth issue was a paper describing the prevalence of active epilepsy in rural Tanzania in a large community-based survey in an adult population by Hunter et al.[9] As health budgets in many high-income countries (HICs) are being squeezed, and health services for less visible conditions such as epilepsy are under particular threat, a more global view of epilepsy and its treatment continues to produce a picture which is so disturbing that most of us prefer to ignore it – or not to look in the first place. This may make us feel better, but it does nothing to change the facts that four out of five people with epilepsy live in low or middle income countries (LMICs) and that most people with epilepsy living in LMICs receive deeply suboptimal treatment for their condition. The paper by Ewan Hunter et al. provides a brief glimpse of the difficulties people with epilepsy (PWE) living in a LMIC continue to face. Over two thirds of the PWE they identified in their large house-to-house survey in Tanzania received inadequate or no treatment for their seizure disorder. Their study also suggests that this problem cannot simply be fixed by shipping in regular supplies of antiepileptic drugs (although this could perhaps help). The unexpectedly low prevalence of active epilepsy and the relatively large number of people who completed the survey but were not available for more detailed questioning may well indicate that epilepsy continues to carry significant stigma, and is a condition many people in Tanzania do not want to talk about – even to a researcher.

The final Editor's Choice in 2012 was a manuscript describing the potential of using computational models of epilepsy. In this paper Stefanescu et al. describe how computational models and other mathematical approaches can help close this gap between insights gained in the lab and clinical practice, especially when they are used by individuals with a good clinical understanding of epilepsy and a thorough grasp of the relevant mathematical concepts.[10] Computational models have already been used better to understand the cellular and network level brain mechanisms underpinning epileptic seizures. They have also been employed for tasks as diverse as the search for predictors of impending epileptic seizures or to guide strategies for surgical, pharmacological and electrical stimulation therapies. For instance, the Editor's Choice article from the seventh issue of 2012 highlighted that, in certain circumstances, mathematical prediction is more accurate than clinical estimation at predicting the chances of achieving seizure-freedom after epilepsy surgery.[7]

This potpourri of papers clearly shows how mature and diversified Seizure and the field of epileptology have become. Over the course of the last year I have been humbled more than once by the depth and range of knowledge and experience of the correspondents I have encountered who have helped to produce and develop the journal. I would like to thank all contributors and reviewers for their hard work in 2012. I look forward to an exciting New Year.

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